

REMARKS

Entry of the amendments is respectfully requested. Claims 1, 4, 6-10, 14, and 16-20 have been amended to correct informalities noted upon review thereof. No new matter has been added with this amendment. Claims 1-20 are pending in the application. Favorable reconsideration and allowance of this application is respectfully requested in light of the foregoing amendment and the remarks that follow.

1. Rejections Based on the Prior Art

a. Recapitulation of the Invention¹

The invention relates to a portable frequency converter device used at construction sites, particularly for vibrators used in concrete work. The frequency converter device includes a converter to change the line frequency to a higher frequency as required for devices such as internal and external concrete vibrators. The converter device has a housing defining two compartments separated by a wall. The first compartment is a receptacle in which the converter electronics are held. The second compartment performs a cooling function as it contains transformers along with annular air ducts and a fan for conveying cooling air through the ducts to cool the transformers. In addition to the air ducts, the cooling air communicates with the wall between the compartments to help cool the converter electronics located in the converter receptacle.

¹ Section 1a is intended to provide the Examiner with some background information on the state of the art and applicants' contribution to it. It is *not* intended to distinguish specific claim for the prior art. That task is performed in Section 1b below.

b. Rejections Under § 102(b)

Claims 1-6, 9-11, 14 and 16-20 stand rejected under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,441,353 to Gehrman (the Gehrman '353 patent). Claim 1 has been amended to more particularly define the invention for which protection is sought. Applicant respectfully traverse this rejection because, as is discussed below, the Gehrman patent does not disclose each and every element of the novel subject matter disclosed and set forth in the claims. Therefore, reconsideration is in order and is respectfully requested.

Independent claim 1 recites a portable frequency converter unit. As discussed above, the frequency converter unit includes a housing comprised of two compartments: a converter receptacle and a cooling portion containing transformers, air ducts and a fan for conveying air through the ducts. In the cooling portion compartment, a first annular profile is spaced apart from a second annular profile in a manner so as to create at least two separate annular cooling air chambers. Further, the cooling portion compartment is isolated from the converter receptacle compartment and converter by a separating wall. Cooling air communicates with the wall to help cool the converter electronics located in the converter receptacle compartment. Claim 1 has been amended to reflect the separation of the two housing components.

As illustrated in Figs. 1 and 4, the Gehrman '353 patent relates to a heated roller unit for a yarn processing machine (i.e., godet) that includes an inductively heated roller 7, a drive motor 9-15, at least one inductor 3-5 and a frequency converter 30. The roller

unit is cooled in one of the two embodiments shown – liquid cooled (Fig. 1) or air cooled (Fig. 4).

Regarding the claim 1 rejection, the Examiner contends that:

“an external first annular profile 12 and additional annular profiles 13 that are oriented to one another in relation to the axis of the first annular profile 12 in such a way that the annular profiles surround each other with a distance from one another, transverse to a main axial direction, so as to form at least two annular chambers 50 that act as cooling air ducts.”

However, the only embodiment specifically identifying elements 12 and 13 is the liquid cooled roller embodiment of Fig. 1. In that embodiment, reference number 12 is identified as a motor housing while item reference number 13 is identified as a hollow cylindrical shell. Nothing disclosed in Gehrman ‘353 indicates that these two elements are spaced apart “with a distance from one another” to form chambers acting as cooling air ducts as required by pending claim 1. In fact, the Fig. 1 embodiment of Gehrman ‘353 (containing reference numbers 12 and 13) is *liquid cooled* with the cooling channels located external to items 12 and 13.

Looking at the air-cooled roller embodiment shown in Fig. 4 of Gehrman ‘353, Applicant concedes that there are at least two annular chambers (Fig. 5) acting as cooling air ducts, but only for the portion of the roller containing the frequency converter 30.

That portion arguably corresponding to the “converter receptacle” of the present invention. In the portion of the roller adjacent to the converter receptacle 43, which the Examiner appears to believe corresponds to the “cooling area” of the present invention, cooling air is directed through a fan 47 (Fig. 4) and then is pushed into “cooling passages

of the motor housing”, i.e., cooling longitudinal channels 50. See, e.g., Gehrman ‘353 patent, l. 15. Gehrman further states that “the cooling air flow along the motor...correspond[s] substantially to that of the arrangement in EP 0424 867 B1” (the Gehrman EP patent attached as Appendix A). Referring to Figs. 1 and 2 of the Gehrman EP patent, it is clearly shown that the cooling air ducts 30 are formed as channels in the outer annular profile 31. As shown in Fig. 2 of Gehrman EP, there is no space between the outer annular profile 31 and inner annular profile 3 to form a duct for cooling air.

For this reason, and contrary to the Examiner’s assertions, the Fig. 4 embodiment of Gehrman (i.e., the air cooled roller embodiment) does not show an external, first annular profile and an additional annular profile surrounding each other with a distance from each other...so as to form at least two annular chambers that act as cooling air ducts in the cooling area as required by pending claim 1. Instead, the cooling air is directed through channels 50 formed in the outer annular profile in the cooling area. See, e.g., Gehrman EP Fig. 2. Furthermore, the converter receptacle 43 and cooling area of the Gehrman ‘353 roller are not isolated from each other as required by claim 1. Clearly, the Gehrman ‘353 patent does not disclose each and every element of claim 1. Accordingly, Applicant respectfully requests withdrawal of this rejection.

Dependent claims 2-6, 9-11 and 16-20 are believed to be in condition for allowance for incorporating by reference the limitations of claim 1 and for defining additional features of the invention, which, when considered in combination with those of claim 1, are not anticipated by the prior art relied upon in the rejection.

c. Rejections under 35 U.S.C. § 103(a)

Claims 7, 8, 12, 13 and 15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over the Gehrman '353 patent in view of U.S. Patent No. 5,019,737 to Bruno (the Bruno patent).

Claims 7, 8, 12, 13 and 15 are believed to be in condition for allowance for incorporating by reference the limitation of claim 1 and for defining additional features of the invention, which, when considered in combination with those of claim 1, are not anticipated by the prior art relied upon in the rejection. The Bruno patent does not cure the deficiencies of the Gehrman '353 patent, most notably the absence of a an external, first annular profile and an additional annular profile surrounding each other with a distance from each other...so as to form at least two annular chambers that act as cooling air ducts in the cooling area and a cooling area isolated from the converter receptacle as discussed above.

Further, there is no suggestion to modify or combine the Gehrman '353 patent with the Bruno patent and, even if the references were combined, the invention would not result. Neither the Gehrman '353 patent nor the Bruno patent is related to applicants' invention as spelled out in the claims. The frequency converter of the Gehrman '353 patent is part of an integrated roller for use in a complex yarn processing machine. The Bruno patent relates to the housing for an electric motor. Neither reference is even remotely related to applicants' portable frequency converter and the Examiner has not offered any teaching or suggestion to combine the references.

For at least these reasons, the references alone or in combination fail to teach or suggest the frequency converter mechanism of claims 7, 8, 12, 13 and 15.

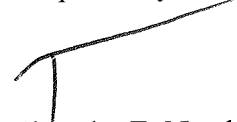
2. Conclusion

It is submitted that claims 1-20 are in compliance with 35 U.S.C. §§ 102 and 103 and each define patentable subject matter. A Notice of Allowance is therefore respectfully requested.

No fees are believed to be payable with this communication. Nevertheless, should the Examiner consider any fees to be payable in conjunction with this or any future communication, the Director is authorized to direct payment of such fees, or credit any overpayment to Deposit Account No. 50-1170.

The Examiner is invited to contact the undersigned by telephone if it would help expedite matters.

Respectfully submitted,



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